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**REMARKS**

Claims 1-7, 10-13, 15-16, 18-19 and 43 are pending.

The Applicant respectfully thanks Mark Hoff (SPE, Art Unit 2857) for the conversation with the undersigned Attorney on April 5, 2004 regarding the availability of Lewis, *et al.*, U.S. Patent No. 6,387,329 ('329) under 35 USC §102(e). The Applicant also thanks the SPE, Mark Hoff, for transmitting copies of the provisional applications, i.e., Application No. 60/108,915, filed on Nov. 17, 1998 and Application No. 60/108,674, filed on Nov. 16, 1998.

**Only the Lewis, *et al.* provisional applications, filed *before* the Applicants' instant application for patent, are available under 35 USC §102(e). Since neither disclosure describes, contemplates or suggests an embodiment within the scope of the Applicant's claims, Lewis, *et al.*, U.S. Patent No. 6,387,329 ('329) cannot, as a matter of law, anticipate -or- render obvious<sup>1</sup> the Applicant's claimed invention.**

Provisional 60/108,674 merely describes a means of fabrication, i.e., employment of an airbrush, of conductive polymer films. Provisional 60/108,915 merely contemplates an array of polymeric sensors of varying polymer film thickness for detecting analytes in fluids. Accordingly, in sharp contrast to the Examiner's assertions regarding the disclosure of Lewis, *et al.*, U.S. Patent No. 6,387,329, neither disclosure available under 102(e) discloses a method for monitoring an electronic device and detecting more than one property and combining the properties to produce a signal output and processing the signal output with multivariate analysis. Indeed, the Applicant respectfully submits that there is no prior art which applies gas multisensor arrays combined with multivariate analysis to the monitoring of properties of electronic devices. Specification, e.g., p.9, lines 9-10.

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<sup>1</sup> Discussed *infra*.

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Although the Examiner has indicated in the Advisory Action that the previously proposed amendments introduce new matter that would require a new search, the Applicant respectfully submit that all limitations added to the claims by means of amendment are fully supported by the specification and invite the Examiner to particularly state what proposed limitations lack support. Moreover, the Applicant respectfully submits that since the proposed amendments indeed narrow the subject matter of the claims pending *and* the original claims encompass the subject matter of the amended claims, no new search is necessary. However, even if the Examiner does not enter the Applicant's proposed Amendments to further distinguish the invention as claimed, the art of record cited by the Examiner, i.e., Lewis, *et al.*, U.S. Patent No. 6,387,329 cannot as a matter of law, anticipate the Applicant's invention as claimed -or- render it obvious since the subject matter available under 102(e), i.e., the Lewis, *et al.* provisionals, are devoid of the necessary elements to preclude patentability.<sup>2</sup>

The Applicant has respectfully pointed out that the current invention is fundamentally related to the non-destructive ability to monitor *in situ* properties of materials integral to electronic devices, e.g., semiconductors, integrated circuits, and data storage drives, in a fast high-throughput manner during manufacturing or during the operation of the device. Particularly, methods of the current invention are drawn to the ability to *directly* monitor gas phase, e.g., the outgassing of materials and / or environment of said materials (e.g. matrix), by means of a multisensor array comprising, for example, at least one solid-state gas sensor combined with multivariate analysis to provide a properties "fingerprint" of the material. The method of the invention particularly enables the direct detection of minute quantities of offgassing volatiles, i.e., at least one odorous or volatile chemical species. Methods of the present invention are particularly useful for directly monitoring gas-phase properties of finished products, e.g., electronic components including "packaged" integrated circuits as well as related monitoring of properties indicative of performance during operation. Devices with temperature-critical operation, for example, can be monitored by detecting changes in gas

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<sup>2</sup> Whether the Applicant's proposed amendments are entered or not.

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concentration or flow rates. Spec., e.g., p.12, lines 17-18. The Applicant respectfully submits that there is no prior art which applies gas multisensor arrays combined with multivariate analysis to the monitoring of properties of electronic devices. Specification, e.g., p.9, lines 9-10.<sup>3</sup>

### Rejections under 35 USC §112 ¶2

The Applicant respectfully points out that the term “human paneling”, as employed in claim 6 now presented, is well-known to those of ordinary skill in the art in the field at the time of the invention to fundamentally refer to human inspection or evaluation, for example, in a quality control step.

The term “near-field probe” in claim 7 is now preceded by the word “a” and followed by the word “sensor”, i.e., “a near-field probe sensor”.

Claim 11 is now amended to remove the indication of a Markush group.

Claim 15 is now amended to recite “wherein the electronic device comprises a circuit board or a multichip module”.

The Applicant, accordingly, respectfully requests the Examiner to withdraw the rejections.

### Rejection under 35 USC §102(e)

The subject matter of claims 1-13, 15-17 and 43 is rejected under 35 USC §102(e) as allegedly disclosed (anticipated) by Lewis, *et al.*, U.S. Patent No. 6,387,329 ('329) (filed November 16, 1999).

The Applicant respectfully points out that since the patent application corresponding to the Lewis, *et al.*, '329 patent was filed November 16, 1999 (i.e., after the Applicant's filing date), the issued patent *per se* is not legally available as a reference under 35 USC §102(e). Anticipation under 35 U.S.C. § 102(e) indeed requires a finding

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<sup>3</sup> The Applicant respectfully highlight to the Examiner that the measurement of partition coefficients between liquid and gas phases not suitable for the applications of the present invention.

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that each and every limitation is found in the single prior art reference.<sup>4</sup> In other words, each claim alleged to be anticipated must read-on or encompass the *original Lewis, et al.*, '329 disclosure, i.e., Application No. 60/108,915, filed on Nov. 17, 1998 and/or Application No. 60/108,674, filed on Nov. 16, 1998. *Lewis, et al.*, '329 cannot, as a matter of law, anticipate the claimed invention.

The Applicant, accordingly, respectfully requests the Examiner to withdraw the rejection.

### Rejection under 35 USC §103

The subject matter of claims 18 and 19 is rejected under 35 USC §103(a) as allegedly obvious over *Lewis, et al.*, '329 in view of *Colvin, et al.*, U.S. Patent No. 6,330,464 ('464). *Lewis*'329 is alleged to teach the invention as claimed, except for the circuit board being in a soldering operation. As highlighted *supra*, however, the *Lewis*'329 disclosure available under 102(e) does not teach the subject matter of the claims. Accordingly, modification as suggested by the Examiner of the disclosure of *Lewis, et al.*, '329 that is available under 102(e) does not result in the claimed invention whether the amendments are entered or not.

The Applicant, accordingly, respectfully requests the Examiner to withdraw the rejection.

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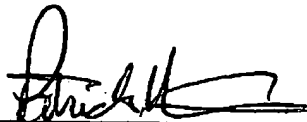
For all the foregoing reasons, the Applicants submit that Claims 1-7, 10-13, 15-16, 18-19 and 43 are in condition for allowance. Early action toward this end is courteously solicited. *The Examiner is kindly encouraged to telephone the undersigned.*

The Commissioner is authorized to charge the normal fee under 37 CFR §1.17(a) for a (3) month extension of time under 37 CFR §1.136(a) as well as the fee under 1.17(b) for the Notice of Appeal and any deficiency in connection herewith to Deposit Account No. 13-2165.

<sup>4</sup> *Celeritas Techs. Inc. v. Rockwell Int'l Corp.*, 150 F.3d 1354, 1360, 47 USPQ2d 1516, 1522 (Fed. Cir. 1998).

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Date: April 7, 2004

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